

Envirothon . 2017  
4.26.17

ANSWER KEY

# 2017 Forestry Exam

82 possible points

1. The United States Forest Service (USFS) is an agency within the executive branch of the federal government. What Department is the USFS housed within? 1 point
  - a. U.S. Department of the Interior
  - b. U.S. Department of Agriculture**
  - c. U.S. Department of Defense
  
2. What natural process does the following describe?: *Fire to bare soil to herbs or grasses to alder or salmonberry to douglas fir to shade tolerant species.* 4 points
  - a. Thinning
  - b. Disturbance
  - c. Succession**
  - d. Chronosequence
  
3. Which of the following are NOT characteristics of a Pacific Northwest temperate rainforest environment? 4 points
  - a. Over 100 annual inches of rain
  - b. Presence of “buttresses” (i.e. large winged ribs at the base of tree trunks) and spindly roots in trees living in often-flooded areas.**
  - c. Moderate temperatures, seldom drops below freezing and summertime highs rarely exceed 80°F.1 point for each answer (not to exceed 3 points)
  
4. List three traditional Coast Salish uses of the Western Red Cedar...  
**dugout canoes, houses, bentwood boxes, clothing, personal hygiene, medicine, diapers, masks, arrow shafts, paddles, rope, baskets.**

Fill in the blank... (2 each)

5. \_\_\_\_\_ is when a tree or trees is uprooted by the wind. **(Blowdown or windthrow)**
6. The acronym DBH stands for \_\_\_\_\_. **(Diameter at breast height)**
7. Buds, shoots and leaves of woody plants that serves as food for wildlife is referred to as \_\_\_\_\_. **(Browse)**

8. A \_\_\_\_\_ is a tree that is a gymnosperm, usually evergreen, with cones and needle-shaped or scale-like leaves. (**Conifer**)
9. The practice of \_\_\_\_\_ is to kill a tree by severing or damaging the cambium layer and interrupting the flow of food between the leaves and the rest of the tree. (**girdling**)
10. A strip of land maintained clear of trees and woody fuel used to stop or control the spread of fire is called a \_\_\_\_\_. (**firebreak**)

11. Individuals of the three species of Bristlecone Pine have been identified as some of the oldest living terrestrial organisms on Earth, with trunks dating back up to 5,000 years. These trees are found just below tree line, at elevations between 5, 600 and 11,200 feet in the rugged mountains of Colorado, California and the Great Basin. These regions receive only a few inches of precipitation annually. How might the conditions these trees live in relate to their longevity?

6 points

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(Trees grow very slowly as a result of the lack of available resources. Adapting to high elevations and extreme conditions reduces competition with other species. Fewer diseases and pests able to survive in such conditions.)

12. Cutting in immature stands in order to stimulate the growth of the trees that remain and to increase the total yield is called what?
- a. Understory cutting
  - b. Clearing
  - c. **Thinning**
  - d. Ecological removal

4 points

13. Circle all of the following that are native evergreen trees in the Pacific Northwest:

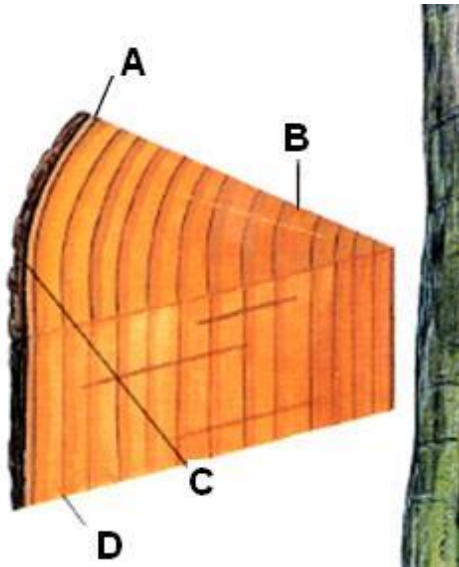
- a. **Western hemlock**
- b. Fraser fir
- c. **Douglas fir**
- d. Eucalyptus
- e. **Sitka spruce**
- f. Bigleaf maple
- g. Swamp white oak
- h. Red alder
- i. **Shore pine**

4 points (1 for each correct answer)

14. Identify the different layers of tree growth:

8 points (2 for each correct answer)

(4 pts total)



Sapwood D

Cambium A

Heartwood B

Bark C

15. Forests have five layers. Put them in order vertically from top to bottom.

(5 pts at 1 pt each)

1. **B**

2. **A**

3. **D**

4. **E**

5. **C**

A. Understory

B. Forest Floor

C. Canopy

D. Herb Layer

E. Shrub Layer

6 points

16. A plant that grows harmlessly upon another plant (such as a tree) and derives its moisture and nutrients from the air, rain, and sometimes from debris accumulating around it is called what?

A. **Epiphyte**

B. Parasite

C. Angiosperm

4 points

17. Name two benefits and two detriments of wildfire. All reasonable answers will be considered. (8 pts)

**Benefits: Cleaning the forest floor, providing habitat, killing disease, new generations**

2 points

**Detriments: Deadly, release of CO<sub>2</sub>, destroys homes, habitat & timber**

2 points

18. Use the field guide to correctly identify the 3 conifer samples provided...

1. \_\_\_\_\_ **Douglas fir** \_\_\_\_\_

2. \_\_\_\_\_ **Western red cedar** \_\_\_\_\_

3. \_\_\_\_\_ **Western hemlock** \_\_\_\_\_

19. Use the field guide to correctly identify the four woody plants flagged at this station...

1. \_\_\_\_\_ **Black cottonwood** \_\_\_\_\_

8 points (2 each)

2. \_\_\_\_\_ **Big leaf maple** \_\_\_\_\_

3. \_\_\_\_\_ **Salmon berry** \_\_\_\_\_

4. \_\_\_\_\_ **Indian plum** \_\_\_\_\_

20. Based on what you learned in the field guide and your observations of this site, explain the lack of conifers in this location...

6 points

**The wetland soil is too water logged for conifer species to thrive.**

BONUS QUESTION: Identify the bonus tree branch sample (2 points): **PACIFIC YEWE**

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